DEWATERING TREATMENT SYSTEM AND METHOD

Abstract

An apparatus and method for reducing the liquid content of a particulate/liquid dispersion, such as a sewage sludge or mine tailings, are described. The apparatus comprises containment means to contain the material, and means to apply pressure to the contained material therein, the containment means being partly defined by a first filtration membrane permeable to the liquid but impermeable to at least some and more preferably substantially all of the solids contained within the material, in particular configured as a continuous belt press. The filtration membrane comprises a textile or other synthetic material in intimate association with a conducting element so as to constitute where so associated a first electrode. A second sheet material, preferably also a filtration membrane, is similarly associated with a conducting element so as to constitute a second electrode to allow application of a potential difference across the material and drive the dewatering process electrokinetically. Preferably, the apparatus is a belt filter press, and includes means to apply a variable and intermittent voltage to, and insulate from each other, two electrodes configured a continuously moving belts.